

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
21 December 2000 (21.12.2000)

PCT

(10) International Publication Number
WO 00/77562 A1(51) International Patent Classification⁷: G02F 1/01,
G01D 5/353, G01I 3/42

(21) International Application Number: PCT/NO00/00208

(22) International Filing Date: 15 June 2000 (15.06.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
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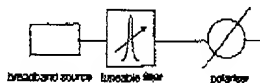
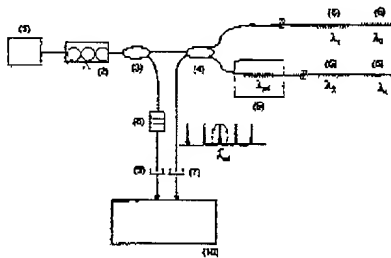
(81) Designated States (national): AE, AL, AM, AT, AU, AZ,
BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK,
DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, IL, IN,
IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,
LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT,
RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA,
UG, US, UZ, VN, YU, ZA, ZW.(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,
IT, LU, MC, NL, PT, SE), OAPI patent (BF, BI, CF, CG,
CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

- With international search report.
- Before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD AND APPARATUS FOR INTERROGATION OF BIREFRINGENT FBG SENSORS



(57) Abstract: A method for measurements of the orthogonally polarised minimum and maximum Bragg wavelengths of one or several birefringent fibre Bragg grating FBG sensors, and alternatively a method for eliminating errors in FBG sensor measurements caused by undesired grating birefringence, using an FBG wavelength interrogation apparatus, where the light from a polarised wavelength swept narrowband source (1) is passed through an electrically controllable polarisation controller (2), operated in either a scanning mode or a tracking mode to find the two orthogonally polarised reflection spectra of the birefringent FBGs (6) with corresponding minimum and maximum Bragg wavelength, λ_{Bx} and λ_{By} , where a low-birefringent reference FBG with known wavelength (5) and a low-birefringent fixed Fabry-Perot interferometer (8), generating frequency equidistant peaks are used in combination to provide accurate and repeatable wavelength measurements.

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